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EXAMINER	
NATNAEL, PAULOS M	
ART UNIT	PAPER NUMBER
2614	5

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/783,939	Applicant(s) ZAHM ET AL.	
	Examiner Paulos M. Natnael	Art Unit 2614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____ .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-12 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 1-12 is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4 .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims **9-11** are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In claim **9**, the claimed "said low-frequency switching device" lacks antecedent basis.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

4. Claims **1-2** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blakeney, II et al. U.S. Pat. No. 5,490,165.

Considering claim 1,

a) at least two television channel selection devices for converting high-frequency signals into intermediate frequency signals is met by RF processing and digital conversion 424A-C', fig.6;

d) an intermediate frequency switching device that connects said audio and video demodulation devices to said television channel selection devices, is met by item 426, fig.6;

Except for;

b) at least two video demodulation devices to convert said intermediate frequency signals into video signals;

c) at least two audio demodulation devices to convert said intermediate frequency signals into audio signals;

Regarding b) and c), Blankeney discloses multiple Demodulation Elements 404A-404N, Fig.6; blankeney does not specifically illustrate separately which demodulation demodulates the video signal and which ones demodulate the audio signals. However, as the spread spectrum system would be capable of processing both audio and video signals received through the RF antennas 422A-422C', it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Blakeney et al. by specifying the audio demodulator and video demodulators, in order for the system to be more precise and more reliable in processing audio and video signals separately.

no teaching of video

Considering claim **2**, the receiving device of claim 1, comprising:

a) at least two receiving antennas that provide said high-frequency signals, is met by the RF antennas 422A-422C', fig. 6;

b) a high-frequency switching device to switch said receiving antennas to said television channel selection devices is met by item 406, fig. 6;

5. Claims **3-6** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blakeney, U.S. Pat. No. 5,490,165 in view of Cvetkovic et al., U.S. Patent No. 6,141,536.

Considering claim 3, the receiving device of claim 2, comprising a video correlation device that receives said video signals and provides a correlated video output;

Regarding claim 3, Blakeney does not disclose a correlation device. However, Blakeney processes signal strength, (see figs. 4-5D) and that process would not be performed without a correlator or similar other device which would compare the various signals received and would help choose the best signal available. (see col. 21, lines 46-49, for example)

In that regard, Cvetkovic et al., disclose a diversity radio system wherein "based on a comparison of the two signals, correlator 27 provides an indicating signal to microprocessor 16 to identify whether the audio content is the same. " (see col. 3, lines 30-33)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Blakeney by providing the correlator 27 of Cvetkovic so that the strongest signal or a correlated video/audio would be provided for further processing from the result of comparison of the multiple input signals.

Considering claim 4, the receiving device of claim 3, comprising an audio correlation device that receives said audio signals and provides a correlated audio output.

Regarding claim 4, see rejection of claim 3;

Considering claim 5, the receiving device of claim 4, comprising a label correlation device that receives said video signals and provides a label correlated output signal;

Regarding claim 4, see rejection of claim 3;

Considering claim 6, the receiving device of claim 5, wherein at one of said audio demodulation devices comprises a phase control circuit (28) and at least one filter (21) concurrent with said phase control circuit, for selection and mirror frequency suppression, is met by Demodulator 204, Fig.2, where a couple of filters (234, 236) and a data scale phase rotation device 238 are provided.

6. Claims **7-12** are rejected under 35 U.S.C. 103(a) as being unpatentable over Blakeney, U.S. Pat. No. 5,490,165 in view of Cvetkovic et al., U.S. Patent No. 6,141,536, and further in view of Siwiak et al., U.S. Patent No. 5,325,403.

Considering claim 7, the receiving device of claim 6, wherein said at least one audio demodulation device comprises a field strength detector that provides field strength signal.

Regarding claim 7, Blakeney discloses a demodulation path RSSI. Blakeney also conducts a survey of pilot strength. And, field strength detectors or signal quality detectors are well known in the art. (see also rejection of Claim 6)

Siwiak et al. discloses method and apparatus for dual-channel diversity reception of radio signal. Specifically, Siwiak et al. discloses a received signal strength indicator (134, 144) that measures signal strength of the radio signal from the first antennal feed (106) during reception of a data bit, and concurrently measures signal strength from the second antenna feed (108). (see Abstract and fig.1)

Therefore, it would have been obvious to the skilled in the art at the time the invention was made to modify the system of Blakeney by adding a detector in order to measure the strength of the signal of multiple received signals, in order to determine the strength of the signal and fitness of the same that would be transmitted for further processing.

Considering claim 8, the receiving device of claim. 7, wherein said at least one audio demodulation device comprises a quality detector that provides a quality signal.

Regarding claim 8, see rejection of claim 7.

Considering claim 9, the receiving device of claim 8, comprising an evaluation device that receives said correlated audio output signal, said correlated video output signal, said label correlated output signal, and said audio signals and provides first switching control signals to said high-frequency switching devices and second switching control signals to said low-frequency switching device, is met by Controller 200, FIGs. 1 and 6;

Considering claim 10, the receiving device of claim 9, wherein said evaluation device controls said high-frequency switching device and said low-frequency switching device in accordance with a selectable operating mode selected by a mode command signal is met by controller's control signal to I/O switch and to the tuners, is met by Controller 200, FIGs. 1 and 6;

Considering claim 11, the receiving device of claim 8, comprising an evaluation device that receives said correlated audio output signal, said correlated video output signal, said label correlated output signal, said field strength signal, said quality signal, said audio signals and provides first switching control signals to said high-frequency switching devices and second switching control signals to said low-frequency

switching device, is met by Controller 400, which sends control signal to switch 426 and demodulators 404A-404N, Fig. 6;

Considering claim 12, Blakeney et al. discloses the following claimed subject matter, note;

a) at least two television channel selection devices for converting high-frequency signals into intermediate frequency signals;

b) at least two video demodulation devices to convert said intermediate frequency signals into video signals;

c) at least two audio demodulation devices to convert said intermediate frequency signals into audio signals;

d) a switching device that receives said intermediate frequency signals and routes each of said intermediate frequency signals to an associated one of said video demodulation devices and an associated one of said audio demodulation devices;

Except for;

e) wherein each of said demodulation device includes an associated field strength detector and provides a field strength signal indicative thereof, ,

Regarding a), b),c) and d), see rejection of claim 1 a)-(d).

Regarding e), see rejection of claim 7.

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Lee, U.S. Patent No. 5,818,543 discloses a diversity receiver for television.

Ishii, U.S. Patent No. 6,047,019 discloses a receiver for spectrum spread communication system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Paulos M. Natnael whose telephone number is (703) 305-0019. The examiner can normally be reached on 6:30am -3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Miller can be reached on (703) 305-4795. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4750.

JOHN MILLER
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

Paulos Natnael
May 15, 2003
PMN